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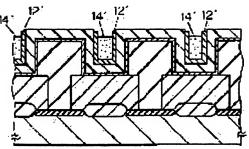
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(54) SEMICONDUCTOR DEVICE AND MANUFACTURING METHOD THEREOF (57) Abstract:

PURPOSE: To separate a p plate electrode required in order to increase the charge amount accumulated in a storage node by boosting the plate electrode in a DRAM.

CONSTITUTION: A phosphorus doped polycrystalline Si film about 150nm thick is deposited on a substrate whereon a phosphorus doped polycrystalline Si film pattern and an ONO film are formed and after depositing an Si3N4 film, coated with a resist film to be etched away so as to leave a resist film 14' between the phosphorus doped polycrystalline Si film patterns only. In such a constitution, the Si3N4 film is etched away using the resist film pattern 14' as a mask, as well as the surface of the phosphorus doped polycrystalline Si film in donth of exceeding 20nm is exidized using the Si3N4 film.



depth of exceeding 20nm is oxidized using the Si3N4 film 12 as a mask to form an SiO2 film and finally to be etched away meeting the eetching requirement for the specific etching rate exceeding 10 and using the SiO2 film as a mask.